Optics and Spectroscopy (English translation of Optika i Spektroskopiya) 2014 vol.116 N5, pages 721-723

Annealing of PrF3 nanoparticles by microwave irradiation

Alakshin E., Gazizulin R., Klochkov A., Korableva S., Safin T., Safiullin K., Tagirov M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The influence of microwave irradiation on the recovery of nanocrystalline PrF3 powders has been experimentally analyzed by nuclear magnetic resonance (NMR) at T = 1.5 K. It is established that the relaxation times of 141Pr and 19F nuclei rise significantly with an increase in the hydrothermal-treatment time, whereas the 141Pr NMR spectra narrow, which indicates a decrease in the number of defects in the lattices of nanosamples. © 2014 Pleiades Publishing, Ltd.

http://dx.doi.org/10.1134/S0030400X14050026